

FORM PTO-1390 (Modified)
(REV 11-98)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES

65008-018

DESIGNATED/ELECTED OFFICE (DO/EO/US)

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

CONCERNING A FILING UNDER 35 U.S.C. 371

09/486875

INTERNATIONAL APPLICATION NO.

PCT/GB98/02812

INTERNATIONAL FILING DATE

16 September 1998

PRIORITY DATE CLAIMED

24 September 1997

TITLE OF INVENTION

GASKET FOR CLADDING SYSTEM

APPLICANT(S) FOR DO/EO/US

REYNOLDS, Donald Arthur

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

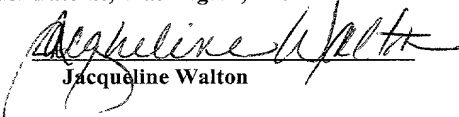
1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☐ A copy of the International Search Report (PCT/ISA/210).
8. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
9. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
10. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

Items 13 to 20 below concern document(s) or information included:

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☒ Certificate of Mailing by Express Mail
20. ☐ Other items or information:

CERTIFICATE OF EXPRESS MAILING

I hereby certify that the documents attached were deposited with the United States Postal Service "Express Mail Post Office to Addressee" Express Mailing Label No. EL507218496US under 37 CFR 1.10 on March 2, 2000 and addressed to BOX PCT, Assistant Commissioner for Patents, Washington, D.C. 20231.



Jacqueline Walton

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

INTERNATIONAL APPLICATION NO.

ATTORNEY'S DOCKET NUMBER

09/486875

PCT/GB98/02812

65008-018

21. The following fees are submitted:

CALCULATIONS PTO USE ONLY

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) :

- ☒ Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$970.00
- ☐ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$840.00
- ☐ International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$690.00
- ☐ International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$670.00
- ☐ International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) \$96.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

\$970.00

Surcharge of \$130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).

\$0.00

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE
Total claims	7 - 20 =	0	x \$18.00
Independent claims	1 - 3 =	0	x \$78.00
Multiple Dependent Claims (check if applicable).			<input type="checkbox"/>

\$0.00

\$0.00

\$0.00

TOTAL OF ABOVE CALCULATIONS =

\$970.00

Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) (check if applicable).

☐

\$0.00

SUBTOTAL =

\$970.00

Processing fee of \$130.00 for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).

+

\$0.00

TOTAL NATIONAL FEE =

\$970.00

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable).

☐

\$0.00

TOTAL FEES ENCLOSED =

\$970.00

Amount to be:

refunded

\$

charged

\$

☒ A check in the amount of \$970.00 to cover the above fees is enclosed.

☐ Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees.
A duplicate copy of this sheet is enclosed.

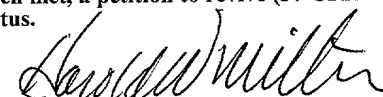
☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. **08-2789** A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Harold W. Milton
HOWARD & HOWARD ATTORNEYS, P.C.
1400 North Woodward Avenue - Suite 101
Bloomfield Hills, MI 48304

Telephone: 248-645-1483
Facsimile: 248-645-1568



SIGNATURE

Harold W. Milton

NAME

22,180

REGISTRATION NUMBER

March 2, 2000

DATE

**VERIFIED STATEMENT BY ASSIGNEE CLAIMING
SMALL ENTITY STATUS [37 C.F.R. 1.9(f) AND 1.27(c)]**

I hereby declare that I am an official of **S D Investments Limited** empowered to act on its behalf.

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention entitled:

GASKET FOR CLADDING SYSTEM

by inventor(s) **Donald A. Reynolds** and having an attorney docket number of **65,008-018** and described in the application having a U.S. Serial No. 09/486,875 and filed **March 2, 2000** International Appln No.: PCT/GB98/02812 Filed: Sept. 16, 1998.


If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under CFR 1.9(d): **NONE**

I acknowledge the duty to file, in this application or patent, notification of any change in status result in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. [37 CFR 1.28(b)].

I hereby declare that all statements made herein are of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent to which this verified statement is directed.

S D Investments Limited

03/13/00
Date


Name: D REYNOLDS
Title: Managing Director
Address: **S D Investments Limited**
8A St. James Place
Baildon, Shipley
West Yorkshire, Great Britain BD17 5PB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Donald Arthur Reynolds :
Serial No. : Not Yet Assigned :
Attny No. : 65,008-018 : GROUP:
Filed : Concurrently Herewith :
Title : GASKET FOR CLADDING SYSTEMS :

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents
Washington, D. C. 20231

Dear Sir:

Please preliminary amend the above-identified application as follows:

IN THE SPECIFICATION:

After the title on page 1, please insert

- **-BACKGROUND OF THE INVENTION- -**
- **-Technical Field- -**

Page 1, after the first paragraph please insert

- **-Description of the Prior Art- -**

Page 3, line 4, after the first full paragraph please insert:

- **-BRIEF DESCRIPTION OF THE DRAWINGS- -**

Page 3, after the "Figure 9" paragraph please insert:

- **-DESCRIPTION OF THE PREFERRED EMBODIMENT- -**

IN THE CLAIMS:

- Claim 3, line 1, cancel "claims 1 or 2" and insert - **-claim 2- -**.
- Claim 4, line 1, cancel "claims 1 to 3" and insert - **- claim 3- -**
- Claim 6, line 1, cancel "claims 1 to 5" and insert - **-claim 5- -**

Please cancel claim 8.

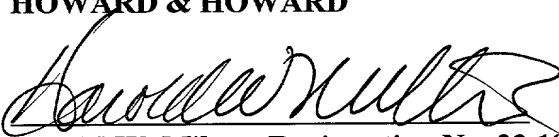
REMARKS

Claims 1-7 remain in this application. The entrance of this preliminary amendment for the purposes of clarifying the specification is respectfully requested.

Respectfully submitted

HOWARD & HOWARD

3-2-00
Date


Harold W. Milton, Registration No. 22,180
The Pinehurst Office Center, Suite #101
1400 N. Woodward Avenue
Bloomfield Hills, Michigan 48304
(248) 723-0352

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4pts

09/486875

WO 99/15752

PCT/GB98/02812

10 PAGES

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-1-

GASKET FOR CLADDING SYSTEM

This invention relates to an improved method of producing a gasket for a building cladding, curtain wall or glazing system, and to the gasket so made.

The term 'gasket' refers to the rubber or other plastics material extrusions used to hold or seal an infill into a framework or the like in a curtain walling/glazing system in the construction of buildings.

In our published UK patent specification number 2 023 703 and our European patent publication number 0 059 058 building systems are described in which infill members are held in place on a framework by means of a flexible gasket which locates and is gripped by the framework and has a limb extending so as to bear against the infill and hold it in place. This system is very successful and is used extensively. A particular feature of it, which appeals to architects, is that the gasket can be of various colours, or indeed multi-coloured, to produce a desired aesthetic effect.

One problem area in connection with the gaskets of the above systems is in connection with the gasket corners. Reference to figures 1 and 2 of the accompanying drawings illustrates the current method of producing corners. The main runs of the gasket are extruded to the desired length. Two extrusions 10 are inserted into a mould 12 and a shot of silicone compound is inserted under pressure into the heated mould forming a joint 14 between the two extrusions. Because the moulding is carried out under pressure, it is easy for protruding lines 16 to appear on the resultant product, which are not aesthetically pleasing. Similarly, because the corner is injected rather than extruded, there is very often a colour differential and a different surface finish between the corner 14 and the extrusions 10. In addition, the corner needs to be radiused

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at 18 to ensure weather-tightness when a clean right angle may be preferred aesthetically. Finally, it is only possible to use a single solid colour whereas the extrusions can be produced in multiple colours or with metallic pigments.

The invention seeks to provide a method of forming a gasket joint, e.g. corner, improved in the above respects.

According to the present invention there is provided a method of forming a joint between two plastics extrusions which comprises mitring the extrusions so that they form the desired angle to one another, removing part of the rear face of each extrusion, placing the mitred extrusions in a mould and injecting a resin material whereby to bond the extrusions to one another and produce the desired joint configuration.

Because the front surface of the joint in accordance with the invention is entirely made up from the original extrusion, there are no problems with raised sight-lines, colour differentials, surface differences, or colour matching. Moreover, the method of the invention allows a corner to be produced which has a clean right angled rather than radiused inner portion.

The extrusions will be made from a suitable plastics materials, e.g. as described in the above mentioned patent publications. Currently it is preferred that the extrusions are made from a silicone rubber, although other plastics materials may be used. Accordingly the resin used to form the joint is normally also a silicone rubber mix which will cure under heat and pressure in order to produce the joint, although other compatible plastics materials can be used. Also, although the invention is especially useful when used with the extrusions of our above referred-to patent publications, it has wider applications and can be used to join plastics extrusions in the curtain wall/glazing field generally, wherever it is desired to maintain the surface appearance of an extrusion through the

-3-

joint or corner.

The invention further includes a gaskets having joints formed in accordance with the above.

The invention will be described further, by way of example, with reference to the accompanying drawings, in which:

Figures 1 and 2 are diagrammatic illustrations of the current method;

Figure 3 is a front elevational view of a seal in accordance with the method of the invention;

Figure 4 is a perspective view corresponding to figure 3;

Figure 5 is a partial sectional view;

Figure 6 is a rear elevation corresponding to figure 3;

Figure 7 is a rear perspective view;

Figure 8 is a cross-sectional view of the extrusion on an enlarged scale; and

Figure 9 shows perspective views of the extrusion from both sides.

Referring to the drawings, and firstly Figures 1 and 2, as has been indicated above in the existing method of forming a corner joint two extrusions 10 are brought together in a mould 12 and injected with a silicone material under heat and pressure to produce a joint 14. The inner corner of the joint 14 is radiused at 18.

Referring now to Figures 3 to 9, in the method of the invention, by contrast, and using like numbers for like parts,

-4-

the extrusions 10 are mitred at an appropriate angle, for example 45° to produce a 90° corner (although other angles may be used for different shape infill panels). The mitred ends 20 are brought together in a butt joint 22. The extrusions 10 have front faces 24 and rear faces 26. The latter are moulded with indented "foot" portions 28 designed to locate in channels in the building framework (not shown).

In the area of the joint the back of each extrusion 10 is cut away along a line 30 at the back of the extrusions. Thus, the front faces 24 are left untouched.

The butt joined cut-away extrusions are then put into a mould of the requisite shape and injected with a suitable resin 32, e.g. a silicone, as before. The mould is shaped to continue the foot portions 28 and to provide a pillar 38 if required by the system. From the front, therefore, the extrusions are unbroken and any multi-colour lines, metallic lines, or the like continue unbroken to the butt joint 22. There are no unsightly raised lines and the problems with the previous method of joining are overcome.

The extrusions 10 have sealing lips 40 as before which bear against the infill, e.g. double glazing unit, in use. In accordance with the invention it is preferred, in addition, to provide a second sealing lip 42 on the extrusions 10 which can be continued in the area of the join 32. This ensures that the corner is weather-tight and obviates the need to radius the inner corner of the join, i.e. the seal 40, allowing a "clean" 90° angle to be achieved. It is preferred to radius the inner lip 42 and have a clean right outer lip 40.

As can be seen from figure 8, some extrusions have different coloured areas 24a and 24b and these can be carried right through the joint in the method of the invention.

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CLAIMS

1. A method of forming a joint between two plastics extrusions which comprises mitring the extrusions so that they form the desired angle to one another, removing part of the rear face of each extrusion, placing the mitred extrusions in a mould and injecting a resin material whereby to bond the extrusions to one another and produce the desired joint configuration.
2. A method as claimed in claim 1 wherein the extrusions are made from a silicone rubber.
3. A method as claimed in either of claims 1 or 2 in which the resin used to form the joint is a silicone rubber mix which will cure under heat and pressure in order to produce the joint.
4. A method as claimed in any of claims 1 to 3 in which joint is a corner.
5. A method as claimed in claim 4 in which the extrusions are at substantially 90° to one another.
6. A method as claimed in any of claims 1 to 5 in which the extrusions have a primary seal and in addition there is a secondary seal on the bottom surface.
7. A method as claimed in claim 6 in which the primary seal is cut to form an angled joint while the secondary seal is radiussed around the corner.
8. A joint formed by the method in accordance with any preceding claim.

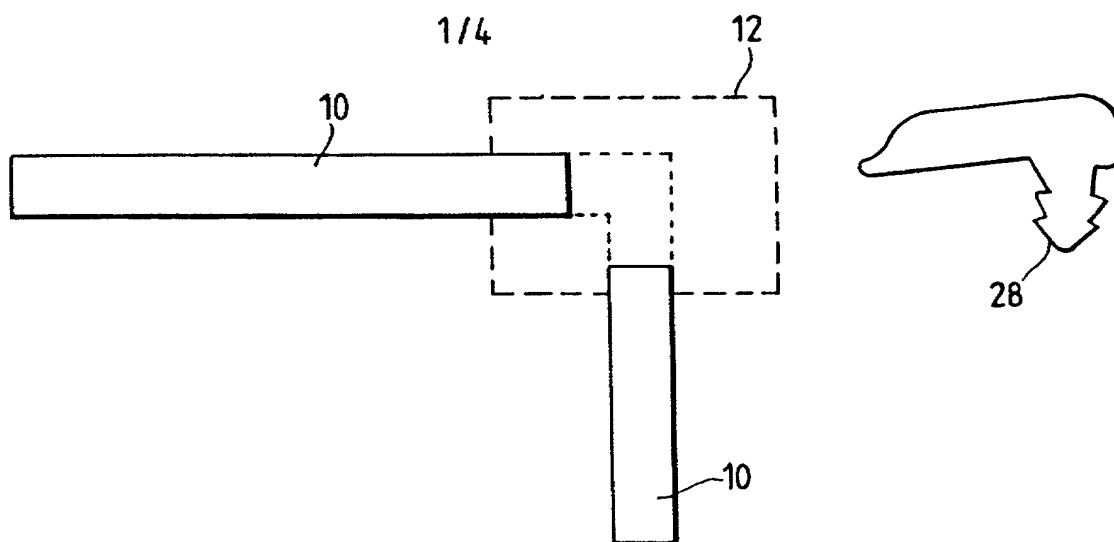


Fig.1.

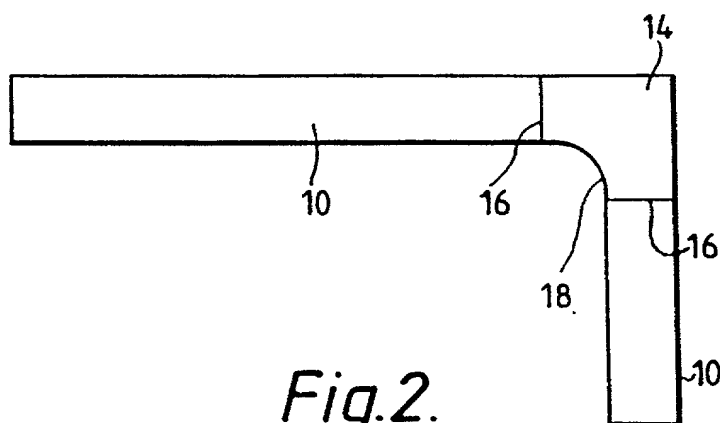


Fig.2.

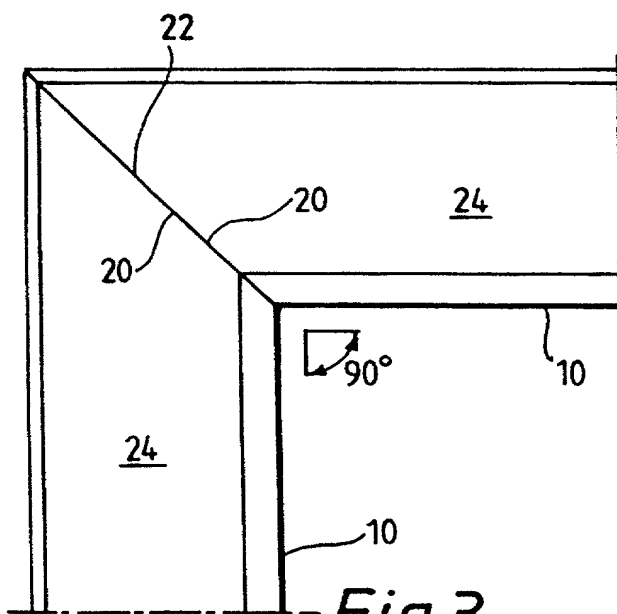
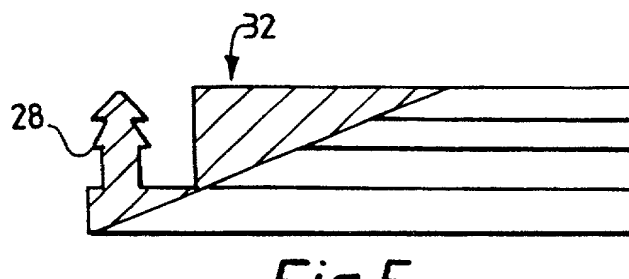
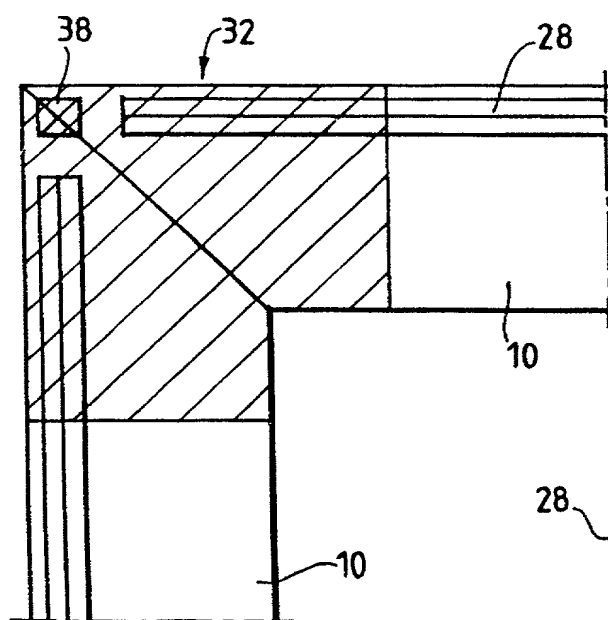
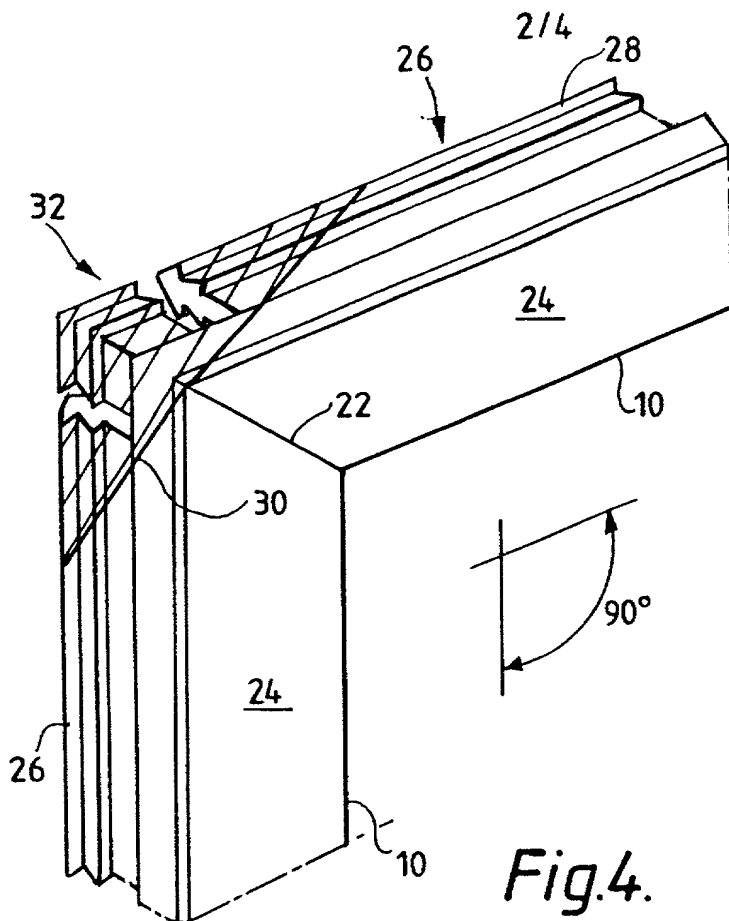


Fig.3.



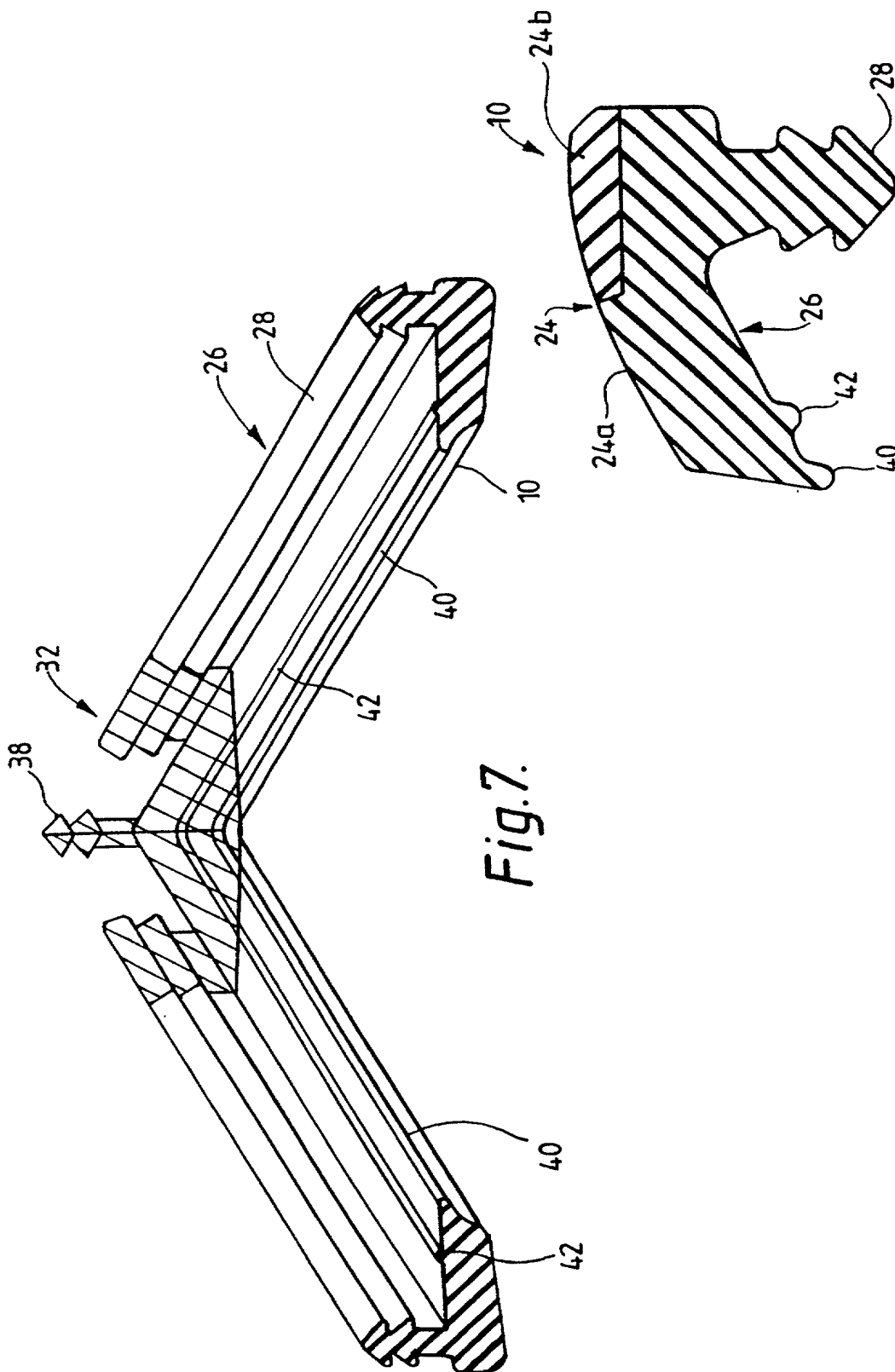


Fig.8.

Fig.7.

4/4

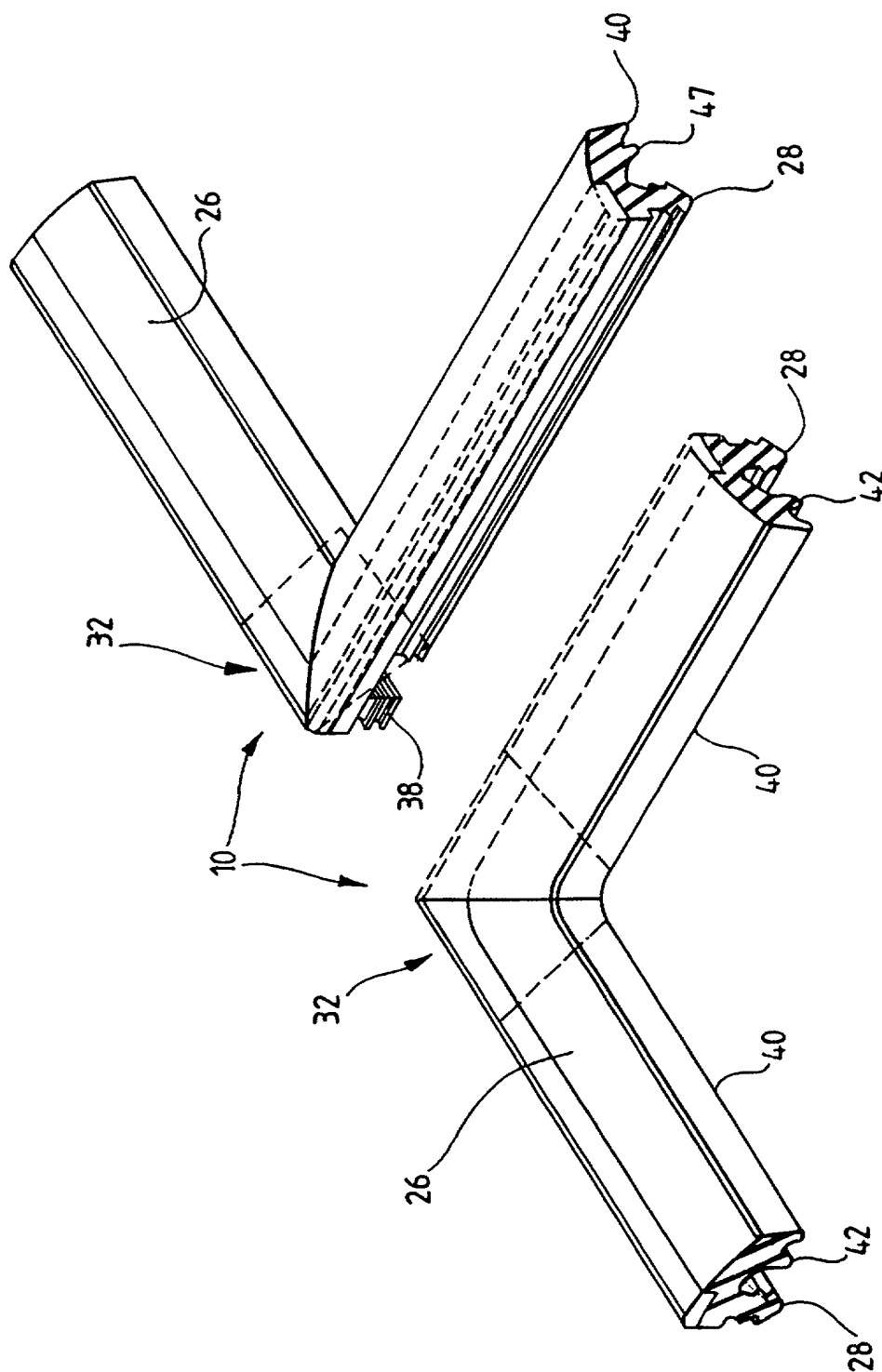


Fig.9.

Docket No.
65,008-018

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

GASKET FOR CLADDING SYSTEM

the specification of which

(check one)

☐ is attached hereto.

☒ was filed on March 2, 2000 as United States Application No. or PCT International Application Number 09/486,875 and International Appln. No.: PCT/GB98/02812 and was amended on filed on September 16, 1998.

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

<u>GB98/02812</u>	<u>PCT</u>	<u>16/SEPT/1998</u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
<u>9720163.6</u>	<u>GB</u>	<u>24/SEPT/1997</u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
<u></u>	<u></u>	<u></u>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

_____ (Application Serial No.)	_____ (Filing Date)
_____ (Application Serial No.)	_____ (Filing Date)
_____ (Application Serial No.)	_____ (Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	_____ (Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

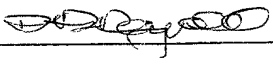
Raymond E. Scott	<u>22,981</u>	William H. Honaker	<u>31,623</u>
Theodore W. Olds	<u>33,080</u>	John E. Carlson	<u>37,794</u>
Harold W. Milton, Jr.	<u>22,180</u>	David J. Gaskey	<u>37,139</u>
Kerrie A. Laba	<u>42,777</u>	Jeffrey A. Sadowski	<u>29,005</u>
Samuel J. Haidle	<u>42,619</u>	Randall L. Shoemaker	<u>43,118</u>
William Gottschalk	<u>44,130</u>		

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Harold W. Milton
HOWARD & HOWARD
The Pinehurst Office Center, Suite #101
1400 N. Woodward Avenue
Bloomfield Hills, Michigan 48304-2856

Direct Telephone Calls to: (name and telephone number)

Harold W. Milton, (248) 723-0352

Full name of sole or first inventor	<u>Donald Arthur Reynolds</u>	<u>3/13/00</u>
Sole or first inventor's signature		Date
Residence	Gypsy Mead, 8 Lodge Hill, Baildon, Shipley <u>West Yorkshire</u> Great Britain	
Citizenship	United Kingdom	<u>GB3</u>
Post Office Address	Gypsy Mead, 8 Lodge Hill, Baildon	
	Shipley, West Yorkshire, Great Britain BD17 7LD	

Full name of second inventor, if any	
Second inventor's signature	Date
Residence	
Citizenship	
Post Office Address	